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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,646	10/09/2001	Tetsuo Nishikawa	Nanjo C-1	6210

7590 06/11/2003

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,646

Applicant(s)

NISHIKAWA ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 10-11 and 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 14 appear to be identical while claims 11 and 15 appear to be identical. Thus, the scope of the claims is confusing because it is not clear what the difference is between claims 10 and 14 or between 11 and 15.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakaki et al. (U.S. 6,364,422).

Sakaki et al. disclose composition comprising 2.5-8% thermoplastic elastomer including styrene-based elastomers such as hydrogenated polystyrene-polyisoprene block copolymer and hydrogenated polystyrene-polybutadiene block copolymer and 92-97% tungsten powder. There is also disclosed molded article comprising the above described thermoplastic elastomer and tungsten powder wherein the molded article has specific gravity greater than 8 and surface hardness less than 80 as measured by JIS K-7215 (col.3, lines 57-61, col.4, lines 27-42, col.5, lines 10 and 39-43, col.6, lines 7-15, and example 1).

In light of the above, it is clear that Sakaki et al. anticipate the present claims.

5. Claims 1-2, 4-11, and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Gallucci et al. (U.S. 6,300,399).

Gallucci et al. disclose composition comprising 1-10% thermoplastic elastomer including styrene-based elastomers and 60-95% tungsten powder. There is also disclosed molded article comprising the above described thermoplastic elastomer and tungsten powder wherein the molded article has specific gravity greater than 3 (col.2, lines 28-32, col.3, lines 20-21 and 40-45, col.3, line 50-col.4, line 34, and col.5, lines 35-37 and 49-51).

Although there is no disclosure of the surface hardness of the molded article given that Gallucci et al. disclose molded article comprising identical amounts of thermoplastic elastomer

and tungsten powder as presently claimed, it is clear that the molded article would inherently possess surface hardness as presently claimed.

In light of the above, it is clear that Gallucci et al. anticipate the present claims.

6. Claims 1 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Bray et al. (U.S. 6,048,379).

Bray et al. disclose composition comprising 1-30%, preferably 8-12%, thermoplastic elastomer and 5-95%, preferably 86% or 88%, tungsten powder. There is also disclosed molded article comprising the above described thermoplastic elastomer and tungsten powder wherein the molded article has specific gravity greater than 11 (col.2, lines 17-20 and 35, col.3, line 3,col.6, lines 26-28 and 40-41, col.7, lines 22-25, col.42, lines 34-35, and Table 4). Attention is drawn to Table 4 which discloses composition comprising 95% tungsten powder and 5% thermoplastic elastomer.

Although there is no disclosure of the surface hardness of the molded article given that Bray et al. disclose molded article comprising identical thermoplastic elastomer and tungsten powder as presently claimed, it is clear that the molded article would inherently possess surface hardness as presently claimed.

In light of the above, it is clear that Bray et al. anticipate the present claims.

7. Claims 1 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayward et al. (U.S. 4,780,981).

Example 5 of Hayward et al. discloses composition comprising 4% thermoplastic elastomer, i.e. low density polyethylene, and 96% tungsten powder. There is also disclosed molded article comprising the above described thermoplastic elastomer and tungsten powder wherein the molded article has specific gravity of 9.6. (col.1, lines 12-16, col.4, lines 3-13, and col.7, lines 61-64).

Although there is no disclosure of the surface hardness of the molded article given that Hayward et al. disclose molded article comprising identical amounts of thermoplastic elastomer and tungsten powder as presently claimed, it is clear that the molded article would inherently possess surface hardness as presently claimed.

In light of the above, it is clear that Hayward et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
10. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallucci et al. (U.S. 6,300,399) in view of Sakaki et al. (U.S. 6,364,422).

The disclosure with respect to Gallucci et al. in paragraph 5 above is incorporated here by reference.

The difference between Gallucci et al. and the present claimed invention is the requirement in the claims of specific type of thermoplastic elastomer.

Gallucci et al. disclose use of thermoplastic elastomers including styrene-based elastomers however, there is no disclosure of hydrogenated polystyrene-polybutadiene block copolymer as presently claimed.

Sakaki et al., which is drawn to composition comprising thermoplastic elastomer and tungsten powder, disclose the use of hydrogenated polystyrene-polybutadiene block copolymer

as the thermoplastic elastomer in order to produce composition with good weather resistance and aging resistance (col.4, lines 18-42).

In light of the motivation for using specific thermoplastic elastomer disclosed by Sakaki et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use hydrogenated polystyrene-polybutadiene block copolymer as the thermoplastic elastomer in the composition of Gallucci et al. in order to produce composition with good weather resistance and aging resistance, and thereby arrive at the claimed invention.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gardner et al. (U.S. 5,786,416) disclose high specific gravity composition comprising 5-80 vol.% thermoplastic elastomer and 5-70 vol.% tungsten.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

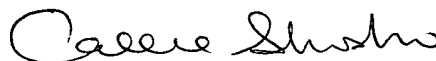
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
June 6, 2003